

REMARKS

Reconsideration and the timely allowance of the pending claims, in view of the following remarks, are respectfully requested.

In the outstanding Office Action, the Examiner rejected claims 11-14, 21-23, and 30-31, under 35 U.S.C. §112, ¶1, as allegedly failing to comply with the written description; rejected claims 11-14, 21-23, and 30-31 under 35 U.S.C. §112, ¶2, as allegedly being indefinite; rejected claims 11-14 and 21-23, under 35 U.S.C. §102(b), as allegedly being anticipated by Paillaman '905 (U.S. Pub. No. 2002/0080905 A1); and rejected claims 11-14 and 21-23, under 35 U.S.C. §102(e), as allegedly being anticipated by Ganoza '301 (U.S. Pub. No. 2003/0085301 A1).

By this Amendment, claims 11, 13-14, and 30 have been amended to provide a clearer presentation of the claimed subject matter and claims 12, 21-23, and 31 have been cancelled. Applicants submit that no new matter has been introduced. As such, claims 11, 13-14, and 30 are currently presented for examination, of which claim 1 is the sole independent claim.

Insofar as the §102, §112, ¶1 and §112, ¶2 rejections are still deemed to be relevant given the claim changes, Applicants traverse these rejections as follows:

I. Rejections Under §112, ¶1 & §112, ¶2.

Applicants have amended claim 1 to now recite that, “an apparatus body comprising an *elongated tubular member and configured to be suspended and substantially inserted into the jet pump* during the operation”.

Such a feature is amply supported by the embodiments disclosed in the written description. By way of illustration, the disclosed embodiments provide that apparatus body 1 is suspended by wire rope 2, and is lowered from an upper portion of a reactor to a position in the vicinity of a side opening existing between an inlet mixer 11 and a nozzle 12 of a jet pump 10 provided in the interior of the reactor and extending in a vertical direction. The lower end of guide rod 5 of guide 3, which is connected to a lower portion of the body 1, is first inserted gradually into the inlet mixer 11 along a tapering surface of the side opening. Then, when body 1 is further suspended and lowered, body 1 is drawn due to the gravitational force of weight 6 of

guide 3 which has already entered the interior of jet pump 10, as body 1 follows guide 3. Thus, guide 3 is biased to return to an appropriate position with respect to body 1. In this manner, *body 1 is inserted into the interior of jet pump 10 substantially* without varying the posture or the angle of operation apparatus 100 as a whole. (See, e.g., Specification: par. [0023]-[0024]; FIG. 2).

Furthermore, the disclosed embodiments clearly state that operation apparatus 100, which includes body 1 and guide 3 with guide rod 5, *is formed in such a size which permits operation apparatus 100 to be inserted into jet pump 10 from the side opening.* (See, e.g., Specification: par. [0032]; FIG. 2).

Thus, the claim limitation reciting “an apparatus body comprising an *elongated tubular member* and *configured to be suspended and substantially inserted into the jet pump* during the operation” is entirely supported by the disclosed embodiments and is clear on its face. As such, it perfectly complies with both, the written description and definiteness requirements. Accordingly, the immediate withdrawal of the rejections under §112, ¶1 and §112, ¶2 is respectfully requested.

II. Rejections Under §102.

As indicated above, claim 1 is directed to an apparatus for executing an operation inside a vessel of a nuclear reactor and positively recites, *inter alia, an apparatus body* comprising an elongated tubular member and *configured to be suspended and substantially inserted into the jet pump during the operation, a guide rod, disposed at an end portion of the apparatus body, having an incline at a predetermined angle relative to a vertical axis of the apparatus body, the inclined guide rod being configured to facilitate entry of the guide rod into a tapered surface of the side opening of the jet pump.*

These features are amply supported by the disclosed embodiments of the written description. For example, as noted above, the disclosed embodiments provide that apparatus body 1 and guide rod 5, *are formed in such a size which permits operation apparatus 100 to be inserted into jet pump 10 from the side opening.* (See, e.g., Specification: par. [0032]; FIG. 2).

The disclosed embodiments also provide that that guide rod **5** is *fixed to the end portion of body 1* so that the end portion of guide rod **5** inclines at an appropriate angle with respect to vertical axis of body **1**. Since guide rod **5** (and its surface) is inclined, body **1** can *be inserted smoothly into the tapering surface of the side opening* of jet pump **10** and be lowered to a predetermined position, without carrying out the conventional operation for further moving guide **3** in the horizontal direction. (See, e.g., Specification: par. [0023],[0032]).

Applicants submit that none of the asserted references, whether taken alone or in reasonable combination, teach each and every element of claim 1, including the features noted above. In particular, the Paillaman '905 reference discloses that inspection apparatus **82** includes frame structure **84**, which comprises an elongate frame member **86**, an attachment frame member **88** extending from a first end portion **90** of elongate frame member **86**, and a support wheel **92** coupled to a second end portion **94** of elongate frame member **86**. (See, Paillaman '905: par. [0027]). At a lower portion of inspection apparatus **82** is a tool head **120** attached to a flexible cable **112**. (See, Paillaman '905: par. [0031]; FIG. 3).

However, Paillaman '905 specifically discloses that frame structure **84** is attached to a top flange of RPV **10** so that frame member **86** is positioned vertically along RPV side wall **16**. (See, Paillaman '905: par. [0026], [0028]). In other words, frame structure **84** is attached to the pressure vessel during operations and is *not*, in any way, inserted into the jet pump. Rather, what is inserted is the lower portion of inspection apparatus **82**, namely tool head **120**, which as depicted in FIG. 4, includes the entire assembly of elements **124-146** – *none* of which could be remotely construed as the claimed apparatus body. (See, Paillaman '905: par. [0031]; FIG. 4). As such, Paillaman '905 is incapable of teaching or suggesting *an apparatus body* comprising an elongated tubular member and *configured to be suspended and substantially inserted into the jet pump during the operation*, as required by claim 1.

Paillaman '905 further discloses that tool head **120** includes probe subassembly **130** which, in turn, comprises probe arms **136** and sensors **140** that are *positioned at the end* of tool head **120**. (See, Paillaman '905: par. [0031]-[0032]; FIGs. 4-6). Equally notable, Paillaman '905

specifically discloses that tool head 120 *is guided by insertion subassembly 144* into jet pump 62 through suction inlet 68. (See, Paillaman '905: par. [0031]).

With this said, it is clear that the only thing at the end portion of the Paillaman '905 inspection apparatus 82 is a sensor 140 – *not* a guide rod. As such, Paillaman '905 fails to remotely suggest a *guide rod disposed at an end portion of the apparatus body*, as required by claim 1. And, given the absence of guide rod at the end of the apparatus, it is clear that Paillaman '905 is incapable of teaching that *the guide rod has an incline at a predetermined angle relative to a vertical axis of the apparatus body*, as also required by claim 1.

Along these lines, Paillaman '905 makes it clear that it is insertion subassembly 144, not the probe arms 136 or sensors 140 that are disposed at the end of inspection apparatus 82, that actually *guides* the tool head 120 into the jet pump 62. As such, there is no way that Paillaman '905 could be reasonably construed as teaching that *the inclined guide rod*, which is at the end of the apparatus body, is *configured to facilitate entry of the guide rod into a tapered surface of the side opening of the jet pump*, as required by claim 1.

Applicants further submit that the remaining reference, Ganoza '301, is incapable of curing the deficiencies of Paillaman '905 and fails in its own right to teach or suggest each and every element of claim 1. For example, Ganoza '301 discloses a cleaning device with a tubing section first end 84 that includes a generally semi-circular bend 100 and a hydrolaze head assembly 92 disposed at the end of tubing section first end 84. (See, Ganoza '301: par. [0020]-[0023]; FIGs. 4-5).

Ganoza '301 further discloses that the operator positions hydrolaze head assembly 92 within jet pump nozzle 52 by inserting first end 84, including hydrolaze head assembly 92 through inlet vents 66, then rotating and raising cleaning device 84 using handling pole 160. (See, Ganoza '301: par. [0035]; FIG. 8).

There is, however, nothing in Ganoza '301 that remotely teaches a *guide rod disposed at an end portion of the apparatus body*, as required by claim 1. That is, the only thing at the end portion of the Ganoza '301 cleaning device first end 84 is a hydrolaze head assembly 92 – which

has nothing to do with operating as a guide rod. To the extent that semi-circular bend 100 could somehow be construed as operating as a “guide rod”, Applicants submit that it is not at the *end portion of the apparatus body*. Moreover, given the lack of guide rod at the end of the apparatus, it is clear that Ganoza ‘301 is incapable of teaching that *the guide rod has an incline at a predetermined angle relative to a vertical axis of the apparatus body*, as also required by claim 1.

Thus, for at least these reasons, Applicants submit that neither Paillaman ‘905 nor Ganoza ‘301, whether taken alone or in reasonable combination, are capable of teaching each and every element of claim 1. As such, claim 1 is clearly patentable over the asserted references. In addition, because claims 13, 14, and 30 depend from claim 1, claims 13, 14, and 30 are patentable at least by virtue of dependency as well as for their additional recitations. Accordingly, the immediate withdrawal of the rejections of claims 11, 13-14, and 30 is respectfully requested.

III. Conclusion.


All matters having been addressed and in view of the foregoing, Applicants respectfully request the entry of this Amendment, the Examiner’s reconsideration of this application, and the immediate allowance of all pending claims.

Applicants’ Representative remains ready to assist the Examiner in any way to facilitate and expedite the prosecution of this matter. If any point remains in issue which the Examiner feels may be best resolved through a personal or telephone interview, please contact the Undersigned at the telephone number listed below.

Please charge any fees associated with the submission of this paper to Deposit Account Number **03-3975**. The Commissioner for Patents is also authorized to credit any over payments to the above-referenced Deposit Account.

Respectfully submitted,

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